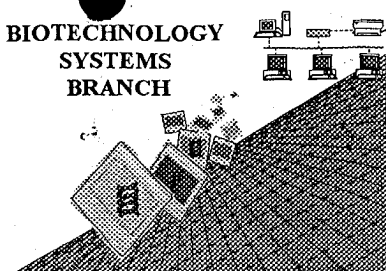


WtH

BIOTECHNOLOGY
SYSTEMS
BRANCH



0400
05-01-01.

RAW SEQUENCE LISTING ERROR REPORT

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) detected errors when processing the following computer readable form:

Application Serial Number: 09/823,649
Source: OIP
Date Processed by STIC: 4/20/2001

THE ATTACHED PRINTOUT EXPLAINS DETECTED ERRORS.

PLEASE FORWARD THIS INFORMATION TO THE APPLICANT BY EITHER:

- 1) INCLUDING A COPY OF THIS PRINTOUT IN YOUR NEXT COMMUNICATION TO THE APPLICANT, WITH A NOTICE TO COMPLY or,
- 2) TELEPHONING APPLICANT AND FAXING A COPY OF THIS PRINTOUT, WITH A NOTICE TO COMPLY

FOR CRF SUBMISSION QUESTIONS, PLEASE CONTACT MARK SPENCER, 703-308-4212.

FOR SEQUENCE RULES INTERPRETATION, PLEASE CONTACT ROBERT WAX, 703-308-4216.

PATENTIN 2.1 e-mail help: patin21help@uspto.gov or phone 703-306-4119 (R. Wax)

PATENTIN 3.0 e-mail help: patin3help@uspto.gov or phone 703-306-4119 (R. Wax)

TO REDUCE ERRORED SEQUENCE LISTINGS, PLEASE USE THE CHECKER VERSION 3.0 PROGRAM, ACCESSIBLE THROUGH THE U.S. PATENT AND TRADEMARK OFFICE WEBSITE. SEE BELOW:

Checker Version 3.0

The Checker Version 3.0 application is a state-of-the-art Windows based software program employing a logical and intuitive user-interface to check whether a sequence listing is in compliance with format and content rules. Checker Version 3.0 works for sequence listings generated for the original version of 37 CFR §§1.821 – 1.825 effective October 1, 1990 (old rules) and the revised version (new rules) effective July 1, 1998 as well as World Intellectual Property Organization (WIPO) Standard ST.25.

Checker Version 3.0 replaces the previous DOS-based version of Checker, and is Y2K-compliant. Checker allows public users to check sequence listings in Computer Readable form (CRF) before submitting them to the United States Patent and Trademark Office (USPTO). Use of Checker prior to filing the sequence listing is expected to result in fewer errored sequence listings, thus saving time and money.

Checker Version 3.0 can be down loaded from the USPTO website at the following address:

<http://www.uspto.gov/web/offices/pac/checker>

Raw Sequence Listing Error Summary

ERROR DETECTED SUGGESTED CORRECTION

SERIAL NUMBER: 09/823,649

ATTN: NEW RULES CASES: PLEASE DISREGARD ENGLISH "ALPHA" HEADERS, WHICH WERE INSERTED BY PTO SOFTWARE

- 1 Wrapped Nucleics The number/text at the end of each line "wrapped" down to the next line.
This may occur if your file was retrieved in a word processor after creating it.
Please adjust your right margin to .3, as this will prevent "wrapping".
- 2 Wrapped Aminos The amino acid number/text at the end of each line "wrapped" down to the next line.
This may occur if your file was retrieved in a word processor after creating it.
Please adjust your right margin to .3, as this will prevent "wrapping".
- 3 Incorrect Line Length The rules require that a line not exceed 72 characters in length. This includes spaces.
- 4 Misaligned Amino Acid The numbering under each 5th amino acid is misaligned. This may be caused by the use of tabs
Numbering between the numbering. It is recommended to delete any tabs and use spacing between the numbers.
- 5 Non-ASCII This file was not saved in ASCII (DOS) text, as required by the Sequence Rules.
Please ensure your subsequent submission is saved in ASCII text so that it can be processed.
- 6 Variable Length Sequence(s) contain n's or Xaa's which represented more than one residue.
As per the rules, each n or Xaa can only represent a single residue.
Please present the maximum number of each residue having variable length and
indicate in the (ix) feature section that some may be missing.
- 7 PatentIn ver. 2.0 "bug" A "bug" in PatentIn version 2.0 has caused the <220>-<223> section to be missing from amino acid
sequence(s) . Normally, PatentIn would automatically generate this section from the
previously coded nucleic acid sequence. Please manually copy the relevant <220>-<223> section
to the subsequent amino acid sequence. This applies primarily to the mandatory <220>-<223>
sections for Artificial or Unknown sequences.
- 8 Skipped Sequences Sequence(s) missing. If intentional, please use the following format for each skipped sequence:
(OLD RULES) (2) INFORMATION FOR SEQ ID NO:X:
(i) SEQUENCE CHARACTERISTICS:(Do not insert any headings under "SEQUENCE CHARACTERISTICS")
(xi) SEQUENCE DESCRIPTION:SEQ ID NO:X:
This sequence is intentionally skipped

Please also adjust the "(iii) NUMBER OF SEQUENCES:" response to include the skipped sequence(s).
- 9 Skipped Sequences Sequence(s) missing. If intentional, please use the following format for each skipped sequence.
(NEW RULES) <210> sequence id number
<400> sequence id number
000
- 10 Use of n's or Xaa's Use of n's and/or Xaa's have been detected in the Sequence Listing.
(NEW RULES) Use of <220> to <223> is MANDATORY if n's or Xaa's are present.
In <220> to <223> section, please explain location of n or Xaa, and which residue n or Xaa represents.
- 11 Use of "Artificial" Use of "Artificial" only as "<213> Organism" response is incomplete, per 1.823(b) of New Sequence Rules.
(NEW RULES) Valid response is Artificial Sequence.
- 12 Use of <220>Feature Sequence(s) are missing the <220>Feature and associated headings.
(NEW RULES) Use of <220> to <223> is MANDATORY if <213>ORGANISM is "Artificial Sequence" or "Unknown"
Please explain source of genetic material in <220> to <223> section.
(See "Federal Register," 6/01/98, Vol. 63, No. 104, pp. 29631-32) (Sec. 1.823 of new Rules)
- 13 PatentIn ver. 2.0 "bug" Please do not use "Copy to Disk" function of PatentIn version 2.0. This causes a corrupted
file, resulting in missing mandatory numeric identifiers and responses (as indicated on raw sequence listing).
Instead, please use "File Manager" or any other means to copy file to floppy disk.

OIPE

RAW SEQUENCE LISTING

DATE: 04/20/2001

PATENT APPLICATION: US/09/823,649

TIME: 07:42:37

Input Set : A:\RPA1006.ST25.txt

Output Set: N:\CRF3\04202001\I823649.raw

Does Not Comply
Corrected Diskette Needed

pg 1-3,5

3 <110> APPLICANT: Smith, Edward
 4 Elfstrom, Carita
 5 Gelfand, David
 6 Higuchi, Russell
 7 Myers, Thomas
 8 Schoenbrunner, Nancy
 9 Wang, Alice
 11 <120> TITLE OF INVENTION: HIGH TEMPERATURE REVERSE TRANSCRIPTION USING MUTANT DNA POLYMERASES
 13 <130> FILE REFERENCE: RPA1006
 C--> 15 <140> CURRENT APPLICATION NUMBER: US/09/823,649
 C--> 15 <141> CURRENT FILING DATE: 2001-03-30
 15 <150> PRIOR APPLICATION NUMBER: US 60/198,336
 16 <151> PRIOR FILING DATE: 2000-04-18
 18 <160> NUMBER OF SEQ ID NOS: 21
 20 <170> SOFTWARE: PatentIn version 3.0
 22 <210> SEQ ID NO: 1
 23 <211> LENGTH: 11
 24 <212> TYPE: PRT
 C--> 25 <213> ORGANISM: Artificial *see item 11 on Encl Summary Sheet*
 27 <220> FEATURE:
 28 <223> OTHER INFORMATION: sequence motif
 30 <220> FEATURE:
 31 <221> NAME/KEY: VARIANT
 32 <222> LOCATION: (2)..(2)
 33 <223> OTHER INFORMATION: X is S or A
 36 <220> FEATURE:
 37 <221> NAME/KEY: VARIANT
 38 <222> LOCATION: (3)..(3)
 39 <223> OTHER INFORMATION: X is any amino acid
 42 <220> FEATURE:
 43 <221> NAME/KEY: VARIANT
 44 <222> LOCATION: (4)..(4)
 45 <223> OTHER INFORMATION: X is any amino acid
 48 <220> FEATURE:
 49 <221> NAME/KEY: VARIANT
 50 <222> LOCATION: (5)..(5)
 51 <223> OTHER INFORMATION: X is L or I
 54 <220> FEATURE:
 55 <221> NAME/KEY: VARIANT
 56 <222> LOCATION: (6)..(6)
 57 <223> OTHER INFORMATION: X is any amino acid
 60 <220> FEATURE:
 61 <221> NAME/KEY: VARIANT
 62 <222> LOCATION: (7)..(7)
 63 <223> OTHER INFORMATION: X is any amino acid
 66 <220> FEATURE:
 67 <221> NAME/KEY: VARIANT

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/823,649

DATE: 04/20/2001
TIME: 07:42:37

Input Set : A:\RPA1006.ST25.txt
Output Set: N:\CRF3\04202001\I823649.raw

68 <222> LOCATION: (8)..(8)
69 <223> OTHER INFORMATION: X is any amino acid
72 <220> FEATURE:
73 <221> NAME/KEY: VARIANT
74 <222> LOCATION: (9)..(9)
75 <223> OTHER INFORMATION: X is any amino acid
78 <220> FEATURE:
79 <221> NAME/KEY: VARIANT
80 <222> LOCATION: (10)..(10)
81 <223> OTHER INFORMATION: X is any amino acid
OK 84 <400> SEQUENCE: 1
OK 86 Leu Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Glu
87 1 5 10
89 <210> SEQ ID NO: 2
90 <211> LENGTH: 11
91 <212> TYPE: PRT
C--> 92 <213> ORGANISM: Artificial *item 11*
94 <220> FEATURE:
95 <223> OTHER INFORMATION: sequence motif
97 <220> FEATURE:
98 <221> NAME/KEY: VARIANT
99 <222> LOCATION: (3)..(3)
100 <223> OTHER INFORMATION: X is Q or G
103 <220> FEATURE:
104 <221> NAME/KEY: VARIANT
105 <222> LOCATION: (6)..(6)
106 <223> OTHER INFORMATION: X is S or A
OK 109 <400> SEQUENCE: 2
OK 111 Leu Ser Xaa Glu Leu Xaa Ile Pro Tyr Glu Glu
112 1 5 10
114 <210> SEQ ID NO: 3
115 <211> LENGTH: 11
116 <212> TYPE: PRT
C--> 117 <213> ORGANISM: Artificial
119 <220> FEATURE:
120 <223> OTHER INFORMATION: sequence motif
122 <400> SEQUENCE: 3
124 Leu Ser Gln Glu Leu Ala Ile Pro Tyr Glu Glu
125 1 5 10
127 <210> SEQ ID NO: 4
128 <211> LENGTH: 11
129 <212> TYPE: PRT
C--> 130 <213> ORGANISM: Artificial
132 <220> FEATURE:
133 <223> OTHER INFORMATION: sequence motif
135 <220> FEATURE:
136 <221> NAME/KEY: VARIANT
137 <222> LOCATION: (3)..(3)
138 <223> OTHER INFORMATION: X is Q or G

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/823,649

DATE: 04/20/2001
TIME: 07:42:37

Input Set : A:\RPA1006.ST25.txt
Output Set: N:\CRF3\04202001\I823649.raw

141 <400> SEQUENCE: 4
W--> 143 Leu Ser Xaa Glu Leu Ser Ile Pro Tyr Glu Glu
144 1 5 10
146 <210> SEQ ID NO: 5
147 <211> LENGTH: 11
148 <212> TYPE: PRT
C--> 149 <213> ORGANISM: Artificial
151 <220> FEATURE:
152 <223> OTHER INFORMATION: sequence motif
154 <220> FEATURE:
155 <221> NAME/KEY: VARIANT
156 <222> LOCATION: (7)..(7)
157 <223> OTHER INFORMATION: X is V or I
160 <400> SEQUENCE: 5
W--> 162 Leu Ser Val Arg Leu Gly Xaa Pro Val Lys Glu
163 1 5 10
165 <210> SEQ ID NO: 6
166 <211> LENGTH: 11
167 <212> TYPE: PRT
C--> 168 <213> ORGANISM: Artificial
170 <220> FEATURE:
171 <223> OTHER INFORMATION: sequence motif
173 <400> SEQUENCE: 6
175 Leu Ser Lys Arg Ile Gly Leu Ser Val Ser Glu
176 1 5 10
178 <210> SEQ ID NO: 7
179 <211> LENGTH: 11
180 <212> TYPE: PRT
C--> 181 <213> ORGANISM: Artificial
183 <220> FEATURE:
184 <223> OTHER INFORMATION: sequence motif
186 <220> FEATURE:
187 <221> NAME/KEY: VARIANT
188 <222> LOCATION: (8)..(8)
189 <223> OTHER INFORMATION: X is S or T
192 <400> SEQUENCE: 7
W--> 194 Leu Ala Gln Asn Leu Asn Ile Xaa Arg Lys Glu
195 1 5 10
197 <210> SEQ ID NO: 8
198 <211> LENGTH: 11
199 <212> TYPE: PRT
200 <213> ORGANISM: Thermus aquaticus
202 <400> SEQUENCE: 8
204 Leu Ser Gln Glu Leu Ala Ile Pro Tyr Glu Glu
205 1 5 10
207 <210> SEQ ID NO: 9
208 <211> LENGTH: 11
209 <212> TYPE: PRT
210 <213> ORGANISM: Thermus flavus